

GARDENIA WEISSICHII OF OAHU ISLAND (RUBIACEAE)
HAWAIIAN PLANT STUDIES 70

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The writer and his student J. R. Kuykendall published (1949) a revision of the Hawaiian species of Gardenia, three in number. The genus occurs on all six of the larger Hawaiian Islands.

On the island of Oahu, there are known two native species, G. Brighamii and G. Mannii, the latter being restricted to Oahu, but it is common on both its mountain ranges. Now at hand, is a third species, but it is not a close relative of any of the Hawaiian species. Instead, its affinity is with G. taitensis DC., the "tiare Tahiti" of the Tahitians, and a great favorite in cultivation in many lands.

In the previous publication the writer described the upward extensions of the hypanthium as calyx lobes. Now, in the studies of A. C. Smith (1974), there is a new designation of these as calyx spurs. These are conspicuous in flower and fruit, and often provide distinctions diagnostic for the species. This new morphological terminology is here accepted and followed.

Gardenia Weissichii sp. nov. Fig. 1.

Diagnosis Holotypi: Frutex vel arbor parva glabra est, foliis oppositis, ramulis foliosis 2-4 mm diametro teretibus obscure viridibus, stipulis 6-7 mm longis proxime in ocream 3-4 mm longam cylindricam chartaceam bilobatam connatis lobis 3-5 mm longis late deltoideis, petiolis 3-5 mm longis, laminis 5.7-12.5 cm longis 2.7-7.5 cm latis subcoriaceis late oblanceolatis (vel ovatis) obtusis basi cuneata decurrenti supra obscure viridibus lucidis infra pallide viridibus nervis secundariis 8-10 in dimidio quoque curvatis adscendentibus, pedicellis 7-11 mm longis adscendentibus, hypanthio 1 cm longo cuneiformato 5-anguloso, calycibus cum limbo 5 mm longo tubuloso viridi, 5 angulis in 5 calcares 25-27 mm longos 6.5-8.5 mm latos erectes

semilanceolatos obtusos projectentibus, tubo corollæ 27 mm longo subcylindrico in medio 3.5 mm diametro in fauce 7 mm albo, 6-7-lobis corollae circinnatis 23-31 mm longis 12-17 mm latis oblique ellipticis albis rotatis, suaveolentia dulci debili sed non aromatica, antheris et stigmatibus inclusis, filamentis fere in toto adnatis, antheris ex fauce projectentibus, antheris in vivo 11 mm longis 1.2 mm latis linearibus, stylo 2 cm longo tereti glabro, 5 stigmatibus 6 mm longis in corpore fusiformi circinnatis, (fructubus incognitis).

Diagnosis of Holotype: Shrub or small tree, glabrous throughout; leaves opposite; leafy branchlets 2-4 mm in diameter, terete, dark green; stipules 6-7 mm long, proximally connate into a chartaceous cylindrical sheath 3-4 mm long, bilobed, the lobes 3-5 mm long, broadly deltoid; petioles 3-5 mm long; blades 5.7-12.5 cm long, 2.7-7.5 cm wide, subcoriaceous, broadly oblanceolate, (or obovate), obtuse, the base cuneate and decurrent, above shiny dark green, below pale green, secondary veins 8-10 in each half, curved ascending, domatia none; pedicels 7-11 mm long ascending; hyp-anthium 1 cm long, cuneiform, 5-angled; calyx limb 5 mm long, tubular, green; the 5 angles projecting into 5 spurs 25-27 mm long, 6.5-8.5 mm wide, erect, semilanceolate, obtuse; corolla tube 27 mm long, subcylindric, 3.5 mm in diameter at the middle, 7 mm at the throat, white; 6-7 corolla lobes circinnate, 23-31 mm long, 12-17 mm wide, obliquely elliptic, pure white, rotate; the fragrance faint, sweet, but not spicy; anthers and stigmas included; stamens with filaments almost wholly adnate; stamens projecting in the corolla throat; anthers when fresh 11 mm long, 1.2 mm wide, linear; style 2 cm long, terete, glabrous; 5 stigmas 5 mm long, circinnate in a fusiform body; fruit unknown.

Holotypus: Hawaiian Islands, Oahu Island, cult., July 14, 1976, Wahiawa Botanic Garden 938, derived from the wild at Oahu, Malaekahana, P. Weissich Fl.2585 (BISH).

Specimens Examined: a second flowering specimen from the type tree, Aug. 17, 1976, (BISH).

Discussion: The closest relative of G. Weissichii is G. taitensis DC., of the Lau Islands and Rotuma, and cultivated in the Society Islands, a species with the calyx spurs 12-14 mm long, 4-7 mm wide, narrowly elliptic, acute; corolla tube 30 mm long, subcylindric, 4 mm in diameter at the middle, 8 mm at the throat, the lobes 38-39 mm long, 10-14 mm wide; anthers 19-20 mm long, exserted for 5 mm; stigmas 8 mm long; flowers with an enchanting strong spicy fragrance. G. Weissichii has the calyx spurs 25-27 mm long, 6.5-8.5 mm wide, semilanceolate, obtuse; corolla tube subcylindric, 3.5 mm in diameter at the middle, 7 mm at the throat, the lobes 23-31 mm long, 12-17 mm wide; anthers 11 mm long, exserted for 2-3 mm; stigmas 6 mm long; flowers with a faint sweet fragrance, not spicy.

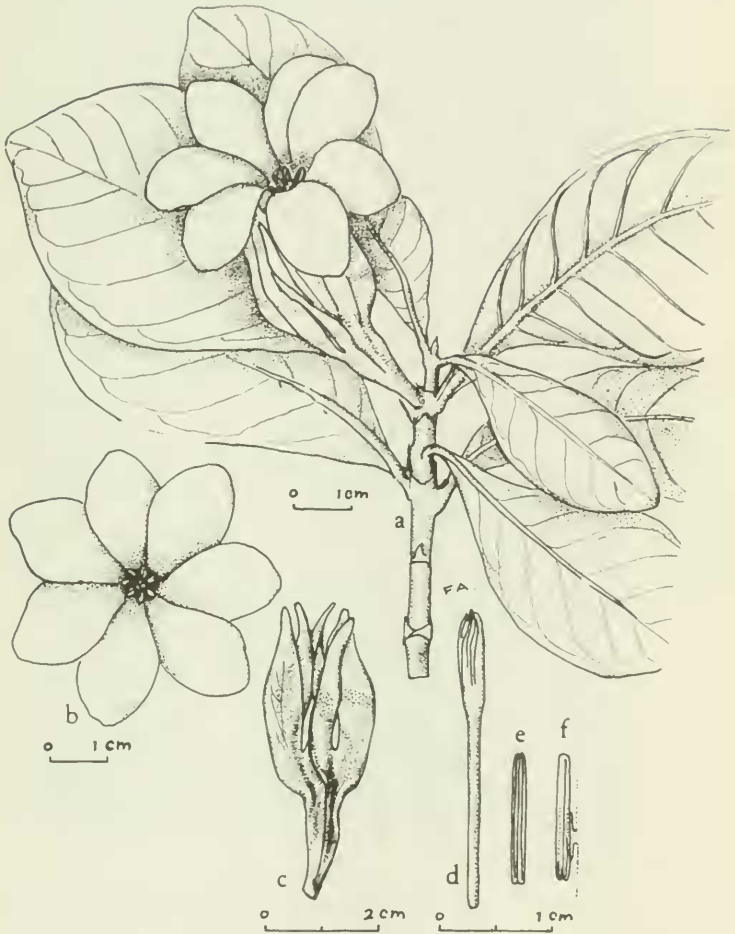
The new epithet is chosen to honor Paul Robert Weissich (1925-), director of Honolulu Botanic Gardens. He successfully brought this attractive species into cultivation.

Legend

Fig. 1. Gardenia Weissichii St. John, from holotype. a, habit, X 1; b, flower, X 1; c, calyx with spurs, X 1; d, style and stigmas, X 2; e, f, stamens, X 2.

Literature Cited

- St. John, Harold and J. Richard Kuykendall. 1949. Revision of the native Hawaiian species of *Gardenia* (Rubiaceae). *Hawaiian Plant Studies* 15. *Brittonia* 6: 431-449, figs. 1-8.
- Smith, Albert C. 1974. Studies of Pacific Island Plants XXVII. The Genus *Gardenia* (Rubiaceae) in the Fijian Region. *Am. Journ. Bot.* 61: 109-128, figs. 1-54.



Gardenia Weissichii St. John - Oahu, Wahiawa Botanic
 Garden 938. 4/21/76 (BISH) found wild at
 Malaekahana, Oahu, Hawaiian Islands